

OBSERVATIONS ON THE NESTING HABITS OF
EUCERCERIS FLAVOCINCTA CRESSON

(Hymenoptera: Sphecidae)

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During July, 1954 a nesting site of *Eucerceris flavocincta* Cresson was discovered near Independence Lake, Sierra County, California, at an elevation of 6,950 feet. The find was interesting because of the extensive nature of the site and the unusual character of the wasp prey. The only previously published records of the nesting habits of the genus *Eucerceris* were those of Scullen (1939), and Linsley and MacSwain (1954). Scullen, working in northwestern Oregon, gave observations on two small nesting sites of *E. flavocincta* containing several dozen burrows in open rocky ground, the prey being adult broad-nosed weevils, *Dyslobus lecontei* Casey. In addition Scullen mentioned unpublished records of *Dyslobus segnis* LeConte used by *E. flavocincta* in Oregon, and *Ophyrastes sulcirostris* (Say) (given as *Ophyeaster subcerosteis*) used by *E. superba* Cresson in North Dakota. Linsley and MacSwain published observations on six females of another species, *E. ruficeps* Scullen, made at Antioch, California in the fall of 1952. In this instance the prey was a mixture of two weevils, *Dysticheus rotundicollis* Van Dyke and *Sitona californicus* Fahrens.

The site at Independence Lake existed along a series of bare silt and gravel hills forming the berm of a ditch about 150 yards in length, excavated about 12 years previously. Each hill was about 10 feet high and 20 feet in diameter. The surface layer of 3 to 8 inches was mostly clay, and beneath this was gravel and sand. Thousands of open burrows were in evidence, all of which appeared to be those of *E. flavocincta*. It is interesting to note, however, that in the case of *E. ruficeps*, Linsley and MacSwain found that abandoned burrows of Halictine bees were utilized. No females of *E. flavocincta* were observed at the Independence Lake site engaged in digging operations and speculation could be made that the wasps may have appropriated burrows of another species. However, no proof of this was evident at the time, and many of the burrows on excavation were found to be no longer in use.

During the afternoon of July 17, hundreds of wasps were observed flying to the area, and two or three were seen coming in for landings continuously. Fewer were seen on July 20 which

was windy. Each of the incoming wasps carried an adult weevil clasped to its venter. The weevils examined were all of an undescribed genus near *Dyslobus* according to P. C. Ting who had collected a short series of the beetles from vegetation in the Webber Lake drainage basin nearby.

Excavation showed that most of the tunnels were about five inches long, entering the ground at right angles with an orifice of about five-sixteenths inch diameter, proceeding for about one and one-half inches, then angling into the hill and widening into a main chamber with a diameter of five-eighths inch. Up to four cells were observed associated with each main tunnel, three to five inches below the surface. Each cell was oval, seven-eighths inch long, three-eighths inch wide and contained six to nine weevils (usually eight) when fully provisioned. Various stages in the life history of the wasp from egg to pupa were observed. One cell was found with a whitish oval egg, 3 mm. long and 1 mm. thick, attached to the venter of one of the weevils. In cells of another burrow, one contained a half grown larva, two contained pupae and a fourth had an empty pupal case. Several larvae were observed, each feeding through the anterior abdominal opening of a dismembered weevil. By the time of pupation, all the weevils consisted of empty separated shells. The wasp pupae observed were found in the debris of the cell without a silken cocoon and were five-eighths inch in length.

In several instances the tunnels, which were left open at all times were being inspected by large deep-blue chrysidids, although no parasitized cells were observed. Specimens of the wasp were subsequently identified as *Hedychrum nigropilosum* (?) Mocsary by K. V. Krombein.

It is an interesting commentary on collecting methods that without special effort, more than 50 specimens of the little known host beetle were taken from a small proportion of the incoming female wasps, and from the provisioned cells.

LITERATURE CITED

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